

F-LIGHT WATER

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F-light drinking water for health protection during air flights

radiation during air flight



Radiation factor during flights

Radiation level in air travel "Moscow-Paris", $\mu\text{R} / \text{hr}$	300 in the quiet Sun
Radiation level in the Fukushima Atomic Power Station vicinity, $\mu\text{R} / \text{hr}$	250
Radiation level in Chernobyl, $\mu\text{R} / \text{hr}$	70
Radiation level indoors, $\mu\text{R} / \text{hr}$	15-20



We need safe and effective means for enhancing the body's resistance to adverse radiation factor during flights

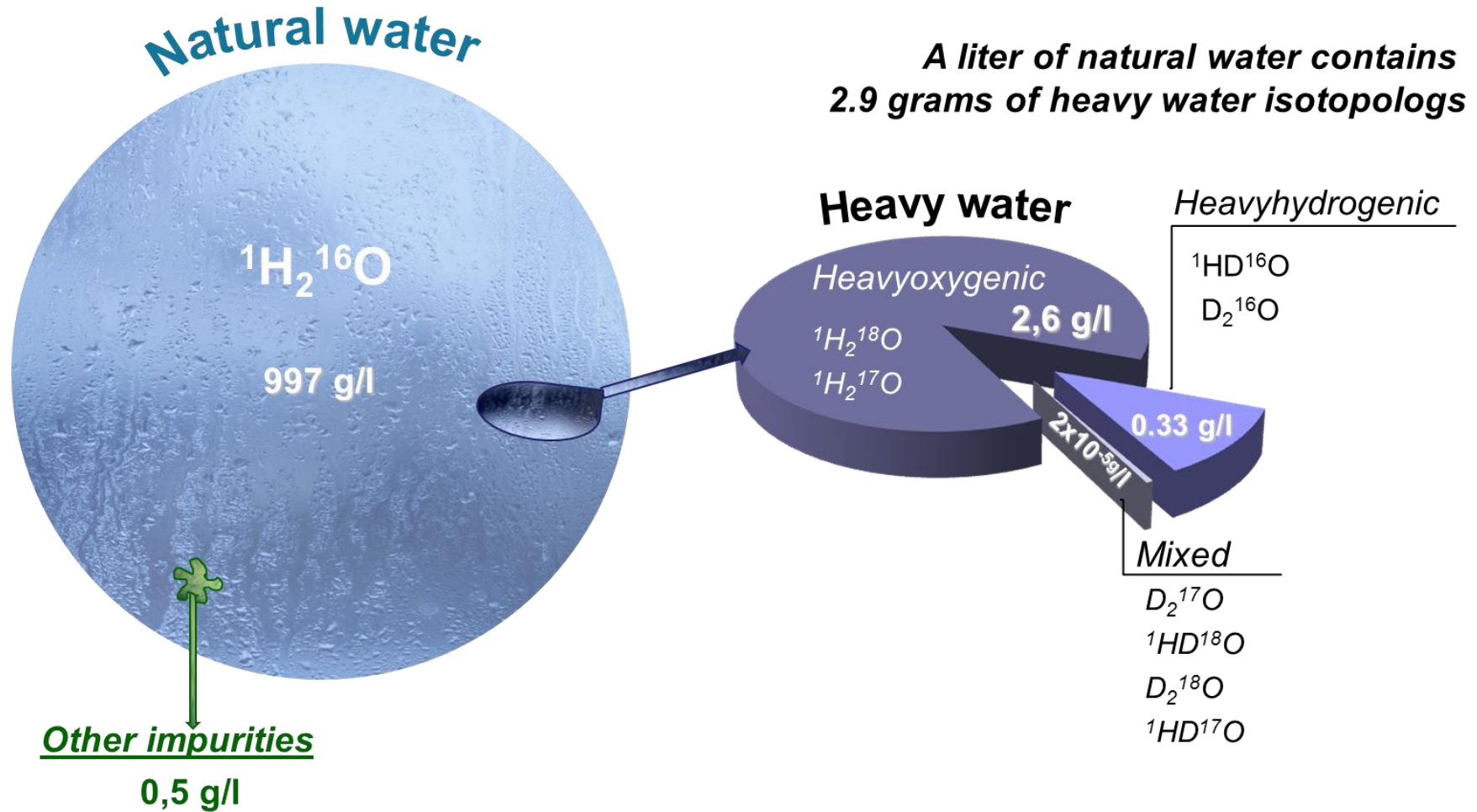
The effect of ionizing radiation is manifested in the body at all levels

Level of biological organization	Radiation damages
Molecular	Enzymes, DNA and RNA damages, metabolic disorder
Subcellular	Damage to cell membranes, nuclei, chromosomes, mitochondria
Cellular	Cessation of cell dividing and cell death; transformation into malignant cells
Tissular, organistic	Damage to CNS (central nervous system), bone marrow, gastrointestinal tract
Organismal	Reduced life expectancy

Heavy water is a factor that increase the negative effect of radiation

Ordinary (even the purest) water contains a component which considerably reduces resistance of organism to radiation.

It is heavy water.



Tobacco plants grown on various concentrations of heavy water

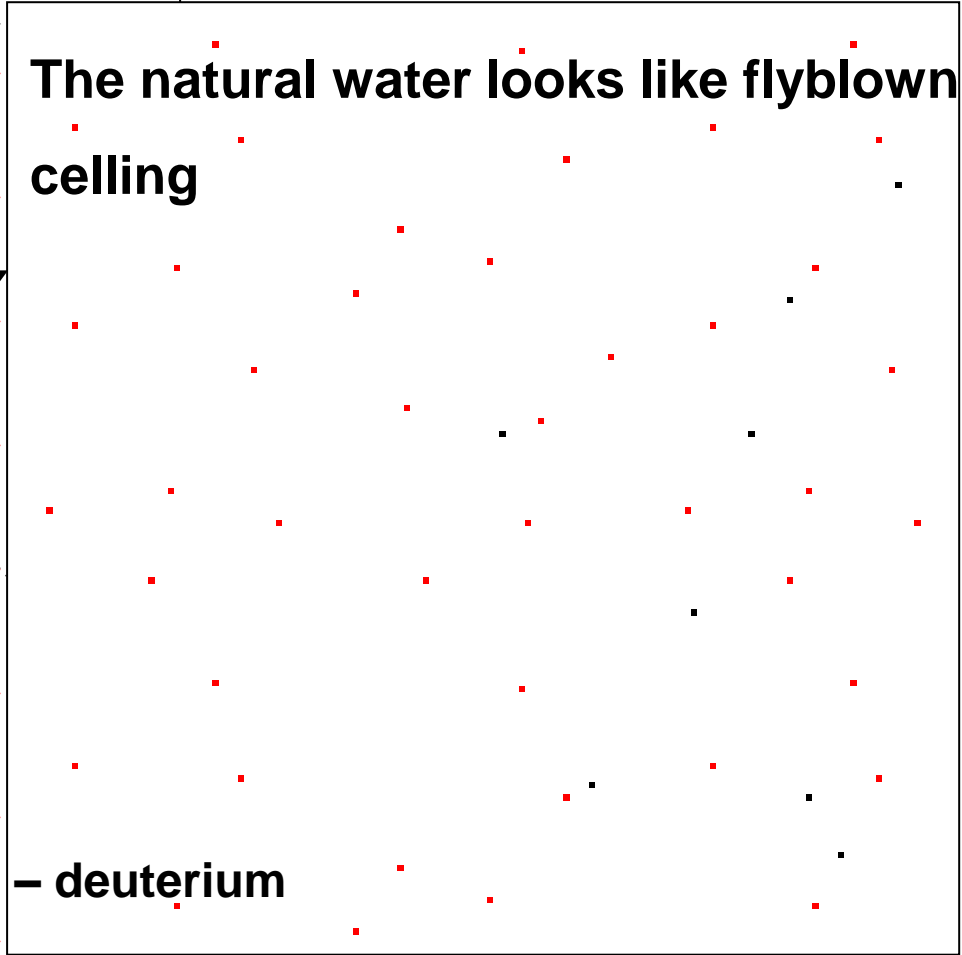
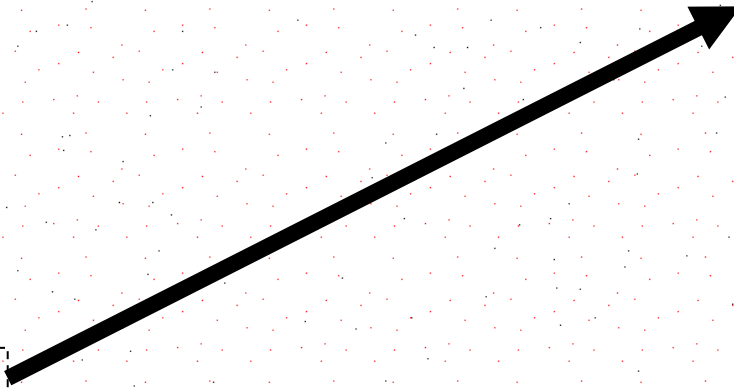
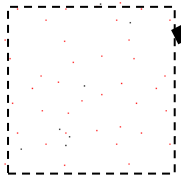


Tobacco plant (*Nicotiana tabacum*)
Katz and Krespi:
"Isotope Effects in Biological Systems"

Heavy water is an inhibitor of biochemical processes

Each liter of pure natural water contains about 3 grams of heavy water

The natural water looks like flyblown ceiling



Black points is a heavy isotope of hydrogen – deuterium

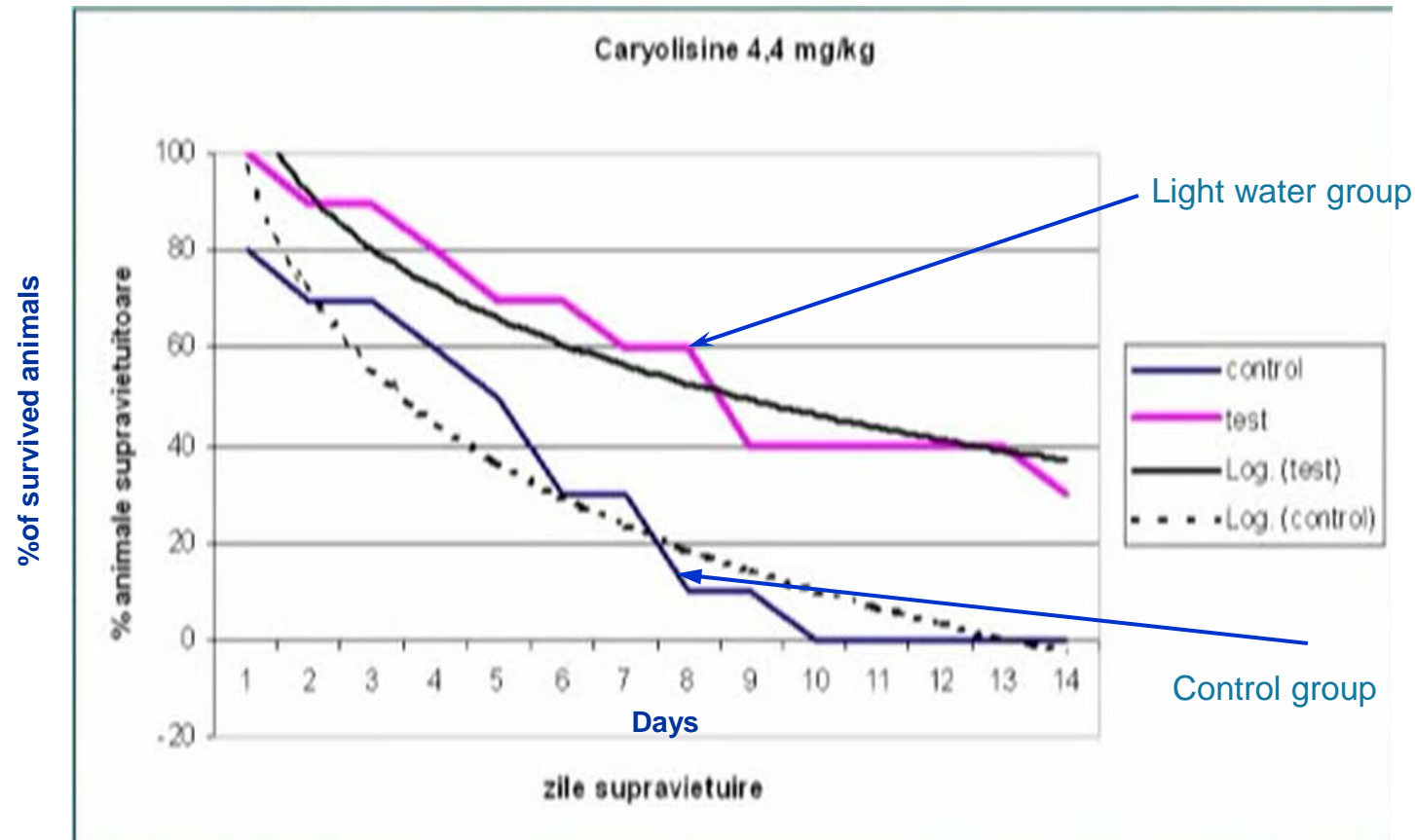
Red dots is a heavy isotope of oxygen - O^{18}

White dots is an absolutely clean water – H_2O

We've removed heavy water and got

**F-light drinking water
with lower content of heavy water
=
light water**

Survival of experimental animals after sublethal doses of radiation



W. Bild, V. Bild, I. Haulica Environmental deuterium and cell proliferation: implications in radiobiology.
1st International Symposium on Deuterium Depletion 13-14 May 2010, Budapest, Hungary

Light water due to its radioprotective properties reduces radiation exposure



Increased radioresistance can be achieved by means of activators of organism stamina (antioxidants, vitamins, general strengthening products etc.).
In pre-and post-radiation period - the use of various kinds of radioprotectors.

Benefits of F-light drinking water as a radioprotector:

- Use of light water (LW) reduces the severity of radiation damage caused by the action of radiation in low daily doses.
- Mechanisms of adaptive effect of LW are caused by increase of the total resistance of the organism.
- Due to LW consumption the reduction of frequency and speed of cataract development in mice after re-repeated exposure of gamma radiation in low doses were observed.
- In the organisms of animals who were drinking LW durably were no tumors of separate locations (breast and thyroid glands, adrenal glands), and the incidence of tumors was reduced (hypophysis, lungs, uterus, leukoses).

Other adverse factors during flights

- acceleration and tossing
- pressure drop
- noise
- vibration



Negative effects on humans

- restraint stress
- jet lag when crossing time zones, accompanied by disturbances of appetite, sleep and decrease in working capacity
- organism dehydration due to lower humidity of air in cabin
- airsickness, leading to the deterioration of health, nausea and vomiting
- noise and vibration related disease
- tiredness and risk of infertility for aircrew
- edemas

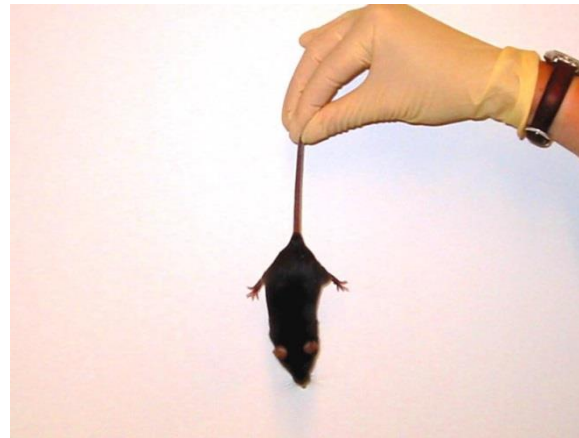
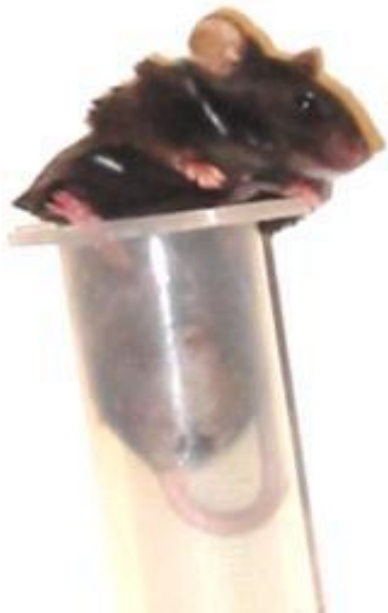
F-light water is a safe and effective mean for enhancing the body's resistance to adverse factors during flights

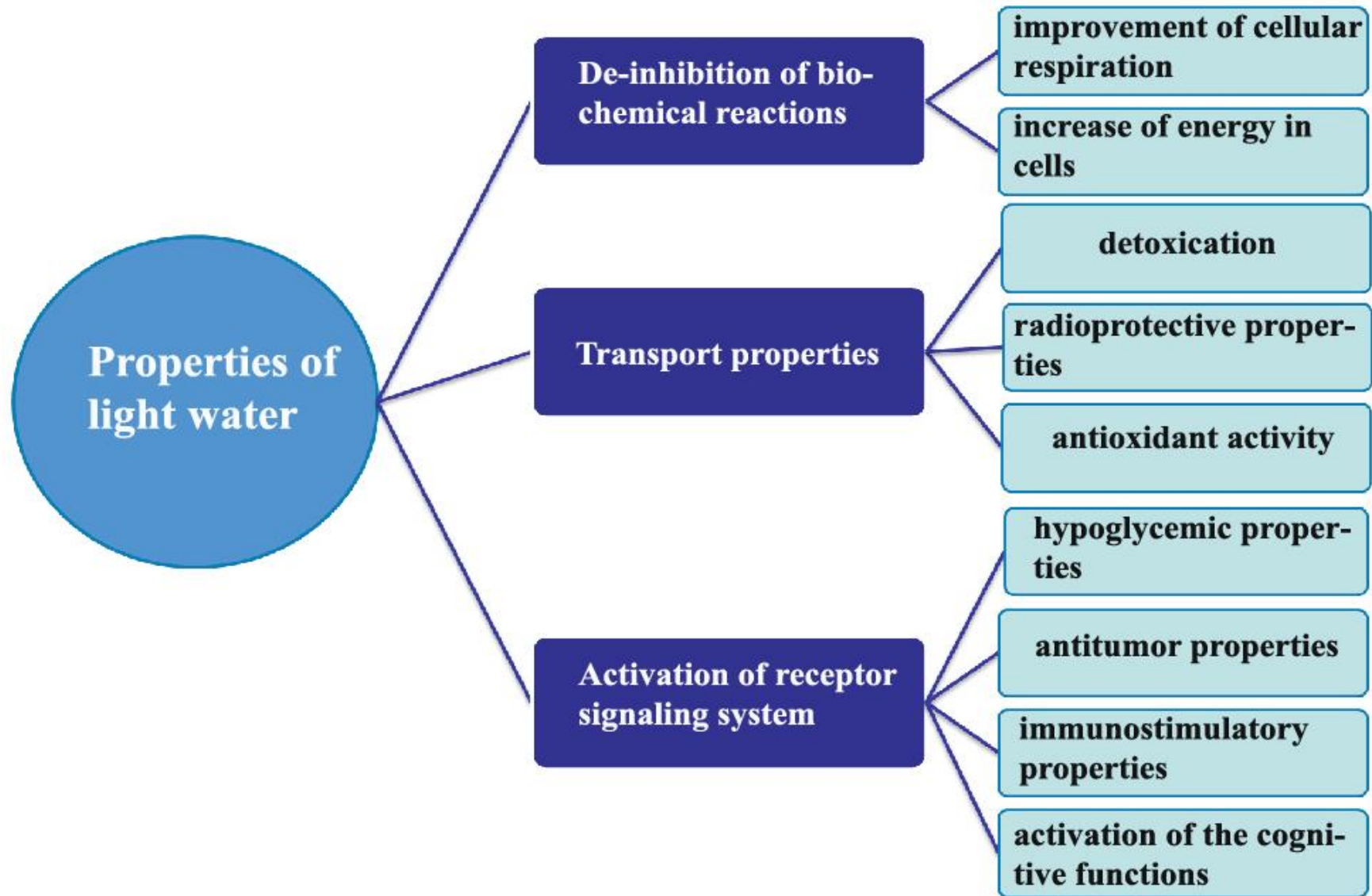
F-light drinking water

with lowered content of heavy water
can reduce the negative impact on passengers during flight



Benefits of F-light drinking water are scientifically proven





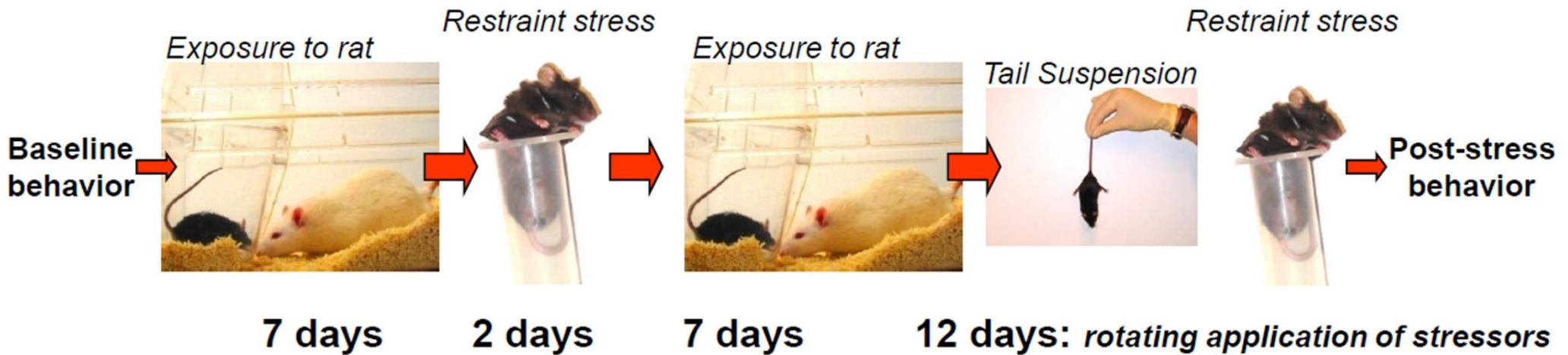
Benefits of F-light drinking water as a remedy for stress



Antistress effect of light water can be compared with effects of such widely used drugs as imipramine, citalopram, fluoxetine (prozac), etc. Advantage of light water consists in absence of side effects and in effectiveness (in particular the rapid rate of absorption).

Chronic stress: modeling in mouse

4 weeks of stress



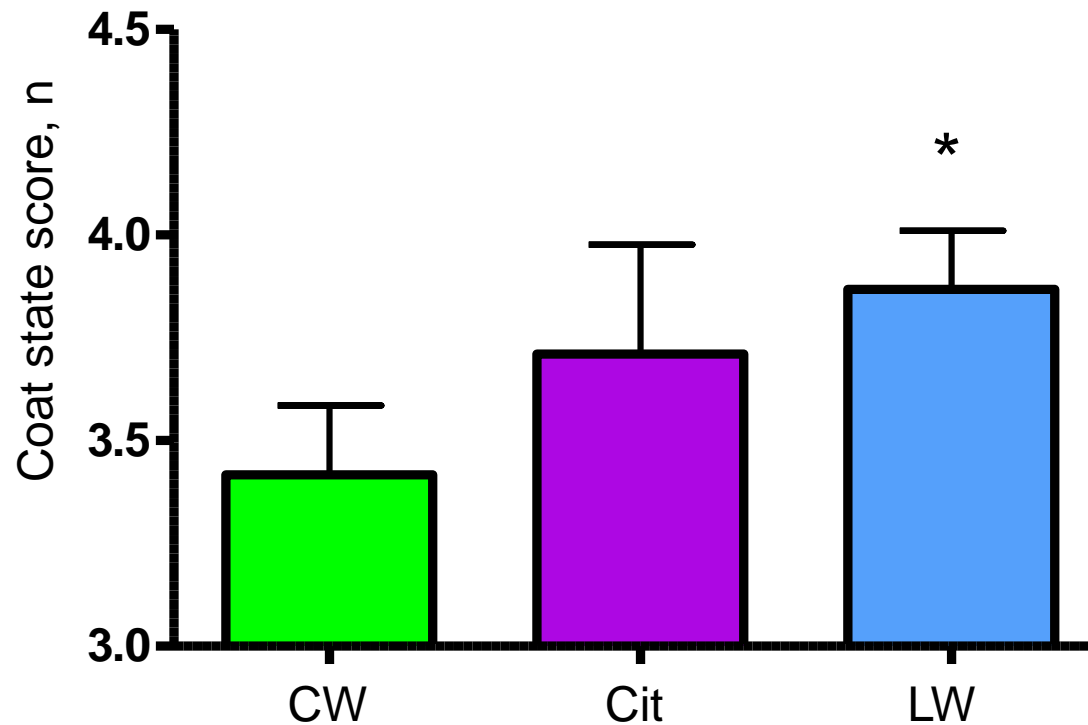
The survival rate of animals in the mouse model of chronic stress

Experimental conditions	A number of mice in the group	A number of mice that died because of stress
Chronically stressed (10 day long) mice treated with Control Water (CW)	25	3
Chronically stressed (10 day long) mice treated with Citalopram (Cit) (15 mg/kg/day)	19	3
Chronically stressed (10 day long) mice treated with Light Water (LW)	19	0

The Institute of General Pathology and Pathophysiology of RAMS

F-light water increases the survival rate and vitality during chronic stress

Coat disintegration after 7 days of stress

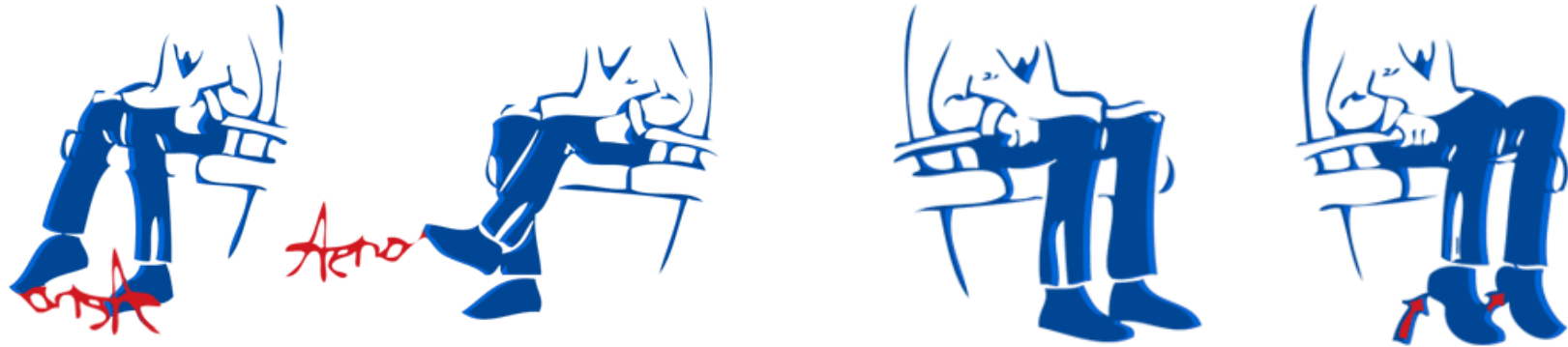


Scores of coat state were significantly higher in F-light water and citalopram-treated mice than in control water-treated animals

Substitution of normal drinking water with F-light water significantly increases the survival rate and vitality during chronic stress and counteracts development of depressive-like syndrome.

The effect of F-light water is similar to antidepressant action or exceeds it.

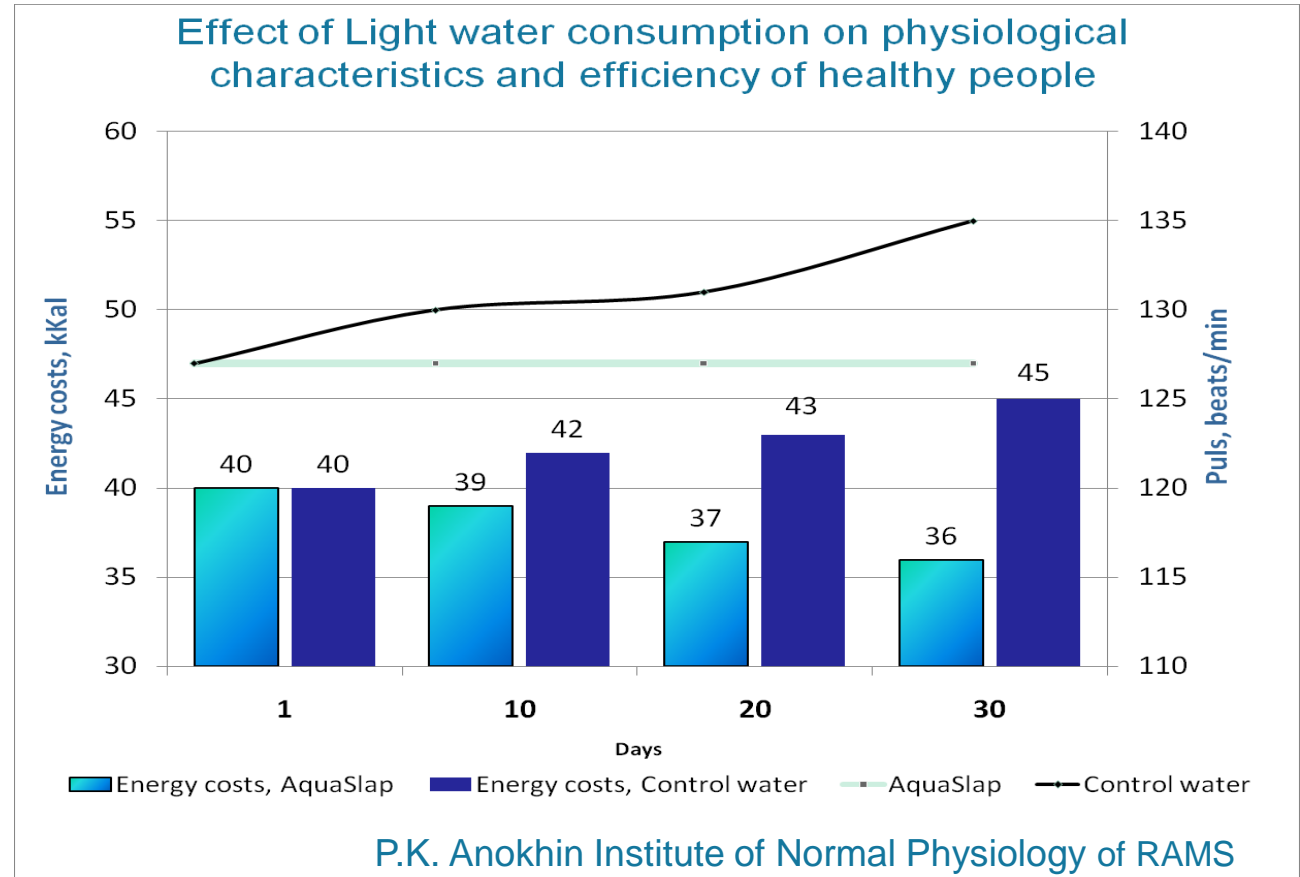
Benefits of F-light drinking water as a remedy for tiredness



As means of improving physical performance and resistance to physical overwork, light water gives more efficient and sparing effect than various vitamins, energy drinks, adaptogens and other existing stimulators.

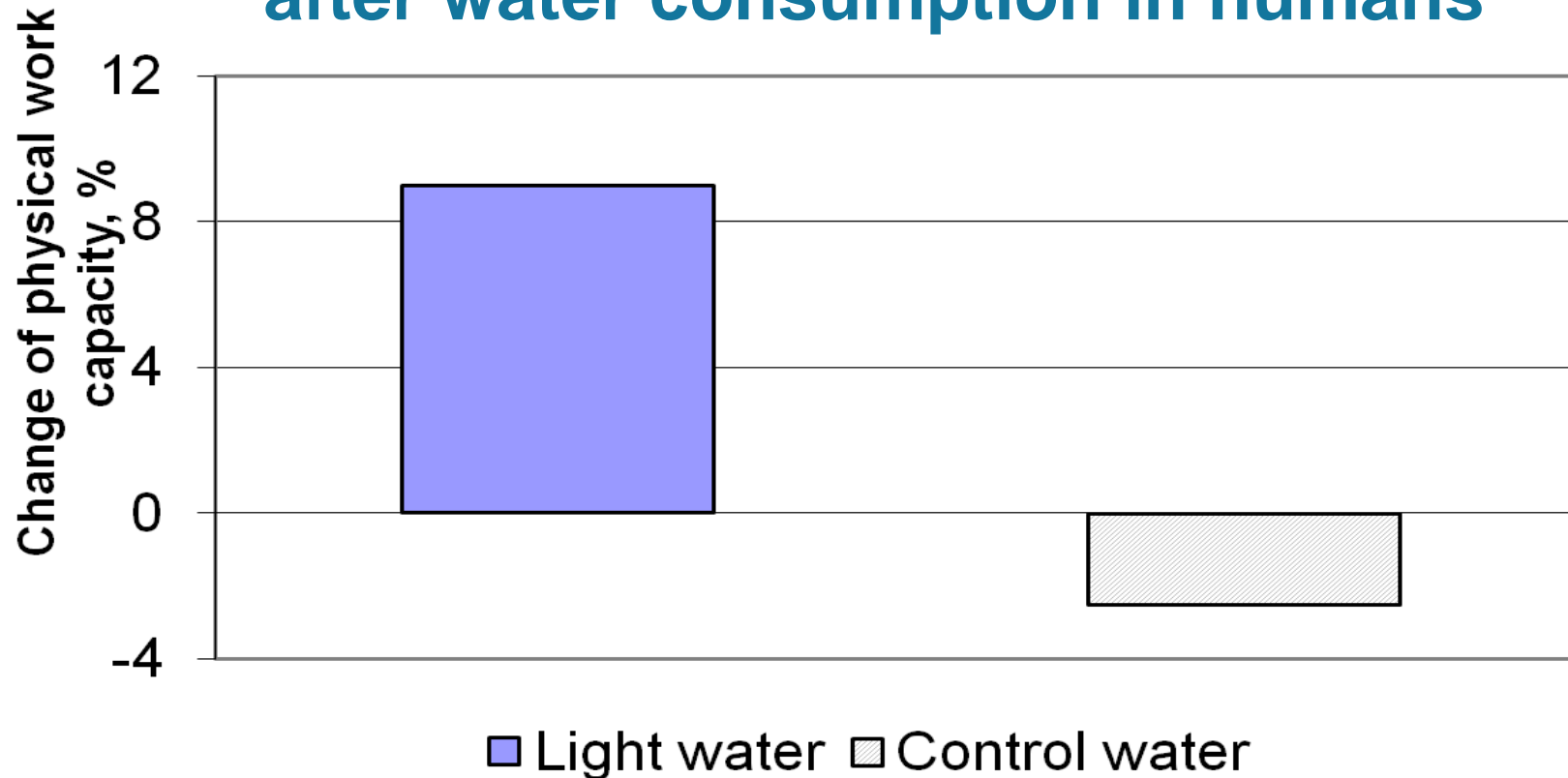


The study of gas exchange parameters during standard physical performance on veloergometer



Values of energy costs on standard physical performance on veloergometer after F-light water consumption were decreased, but in control group increased

Change of physical performance after water consumption in humans



P.K.Anokhin Institute of Normophysiology of RAMS

The indicators of physical working capacity (data of Harvard's Step test) after F-light water consumption were increased while in control group decreased.

**Drinking F-light water
improves functional performance in
healthy people during aerobic exercises,
a physiological state with high demand
on energy production**

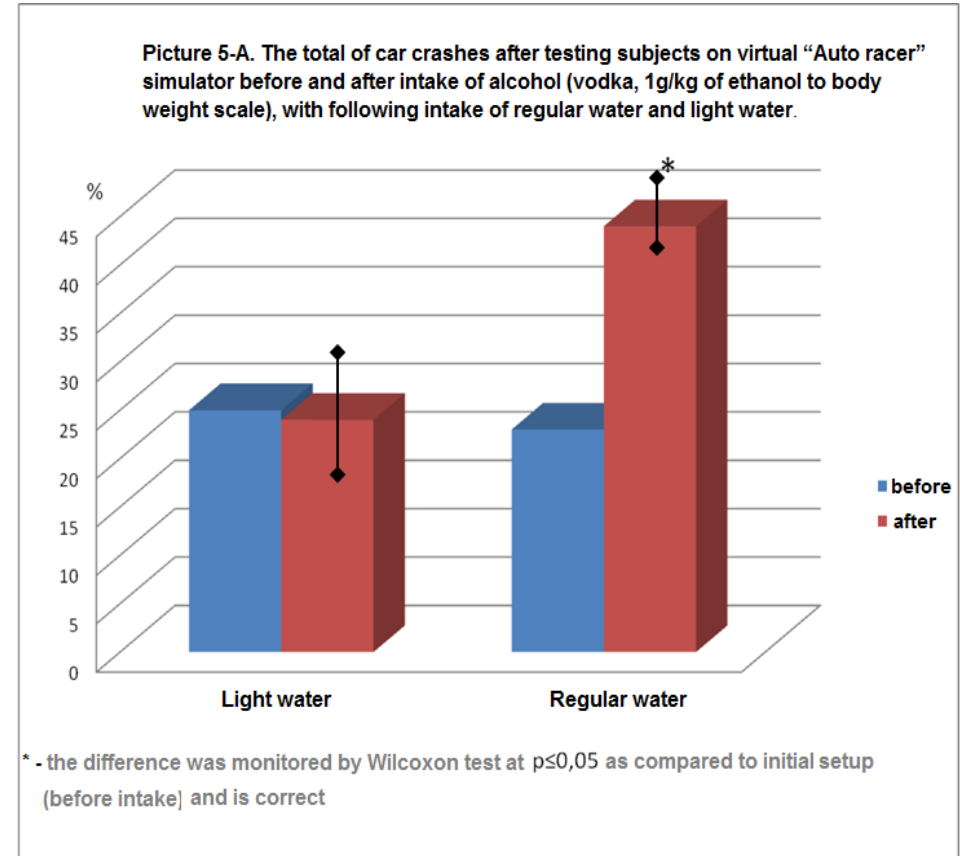
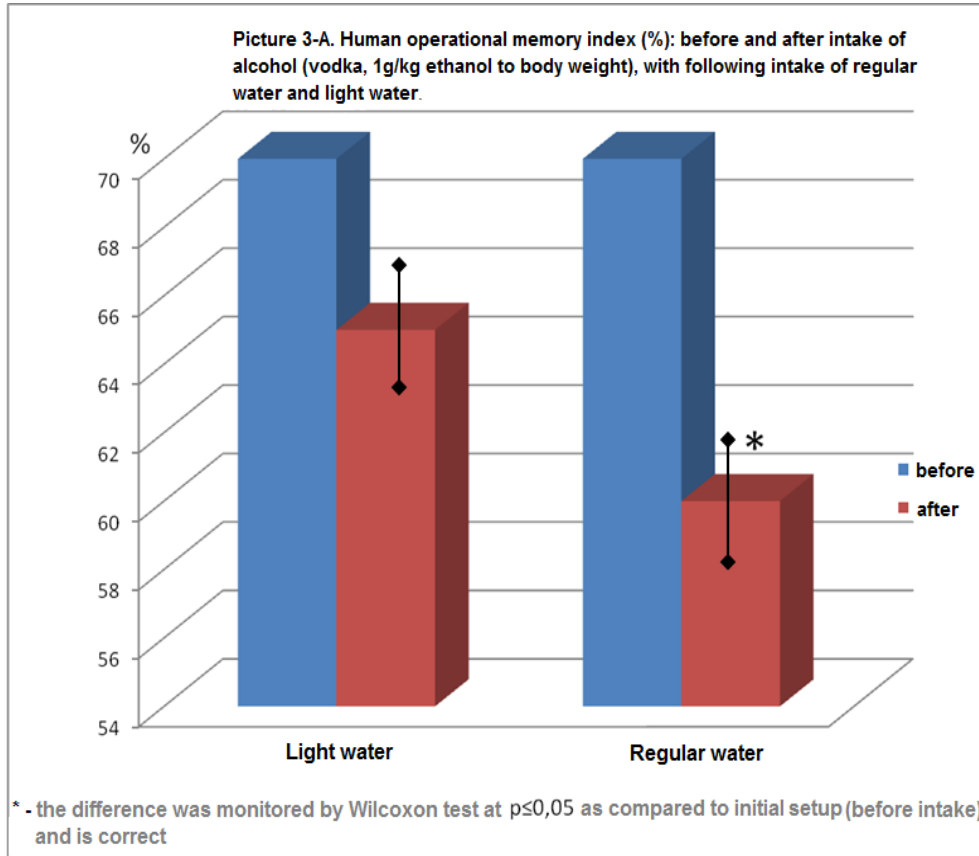
By results of the conducted research of LW-influence on a functional condition and level of physical capacity of volunteers P.K. Anokhin Institute of Normal Physiology of Russian Academy of Medical Sciences recommended to use light drinking water for improving physical performance, resistance to physical overwork and stress in healthy individuals.

Benefits of F-light drinking water as sobering remedy



F-light water normalizes psycho-physiological functions after ingestion alcohol

Human reaction adequacy after ingestion alcohol and drinking F-light water afterwards



Russian NHS narcology research center. Laboratory of toxicology.

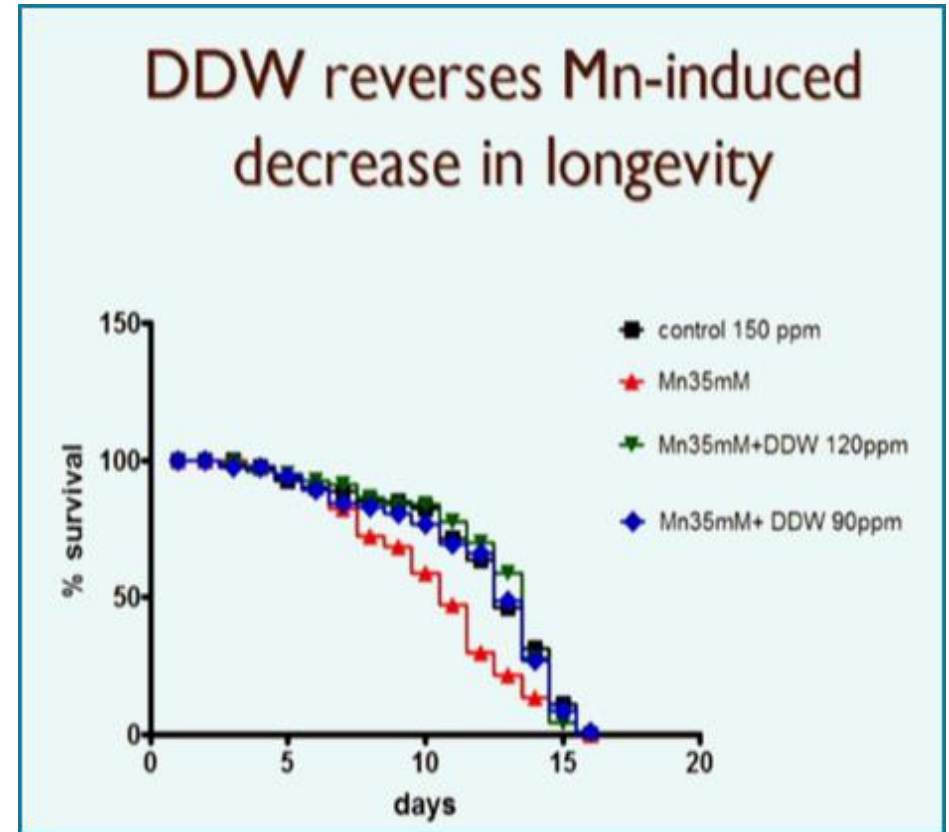
All tested subjects reported little or no hangover at all when taking F-light water after drinking alcohol

F-light water seemingly normalises psycho-physiological functions during post-intoxication period

Concentration of cadmium in rat liver after intoxication

Terms of protocol	Cd mkg/g in liver
Control	0.020 ± 0.006
Intoxication with cadmium using control water as an ingestion and detoxifying media	45.65 ± 5.34
Intoxication with cadmium, using light water as a detoxifying media	17.46 ± 3.48
Intoxication with cadmium, using control water as an ingestion and detoxifying media	2.09 ± 0.59

Life expectancy of flatworms after manganese intoxication



Olariu L., Petcu M.D., et al.
The influence of deuterium depleted water in the experimental cadmium chloride intoxication on liver function in rats. *Lucrări Științifice Medicină Veterinară* Vol. XL, 2007, P.270-274.

Avila D.S., Aschner M (Vanderbilt Medical Center, Nashville TN, USA)
Protective Effects of DDW in a *C.elegans* model
1st International Symposium on Deuterium Depletion
13-14 May 2010, Budapest, Hungary

Light water helps to increase life expectancy in organisms living in dangerous environments by neutralising the negative effects of ecopollutants

**Drinking F-light water
can significantly reduce
the impact of toxic factors, including
radioactive contaminants
and alcohol**

Certified industrial production of Light water in Russia



ISO 9001 certification is in process

*We are the world's first certified
industrial manufacturer of Light water*

It works
even if you don't
believe in it *Niels Bohr*

